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ABSTRACT

Critics of academic tracking argue that it perpetuates society's existing social structure, which is unfairly organized and limited by race and class. This paper presents findings of a study that compared teaching practices in tracked and detracked high school classes in a small city in upstate New York. Four social-studies and four science teachers volunteered to teach the same 9th- and 10th-grade curricula to classes grouped and ungrouped by ability. Teachers were encouraged to use cooperative learning in their detracked classes as their primary instructional method. Classrooms were observed during the second year of the project, the 1995-96 academic year. Findings indicate that teaching in detracked classes fostered richer use of language and a variety of teaching methods than found in the tracked classes. Students and teachers reported a preference for cooperative learning. Results of statewide testing indicated no difference in overall achievement of students, whether in tracked or detracked classes. There was no evidence to support the notion that instructional practices in tracked classes were more effective or efficient. It is recommended that teachers learn how to adapt their instruction to a wider range of student achievement and interests within a single classroom. (LMI)

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ED 393 170

"Should We Do It the Same Way?" - Teaching in Tracked and Untracked High School Classes

Paper to be Presented at the Northeastern Educational Research Association, 26th Annual Conference, October 25-27, 1995

submitted

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Abstract

This study reports the findings of teaching in tracked and detracked high school classes. Four social studies and four science teachers volunteered to teach the same ninth and tenth grade curricula to classes grouped and ungrouped by ability. Teachers were encouraged to use cooperative learning in their detracked classes as their primary instructional method. Using qualitative and quantitative data we learned that teaching in detracked classes fostered richer use of language and a variety of teaching methods than found in the tracked classes. Students and teachers reported a preference for cooperative learning. Results of statewide testing indicated no difference in overall achievement of students whether in tracked or detracked classes.

There are few educational issues as controversial as academic tracking. Although most high schools practice tracking, there is increased public debate about its fairness and worth in a democratic society. At one extreme are defenders who believe tracking is an outcome of a meritocracy which rewards student achievement, effort and interest. At the opposite extreme critics argue that tracking merely perpetuates society's existing social structure which is unfairly organized and limited by race and class (Oakes, 1995).

There are many studies documenting the outcomes of high school tracking (Gamoran & Mare, 1989; Oakes, 1985; Hallinan, 1990; Wheelrock, 1992). As is widely known, high achieving students do well in an upper-tracked curriculum, and they obtain many post-graduation opportunities after high school. Conversely, low achieving students continue to do poorly in school, rarely move from the lower tracks and receive few educational or vocational opportunities after high school. Of course, the problems with tracking are exacerbated by the overwhelming correlation between students' race and class and the academic tracks in which they are placed. Frankly stated, children of color and poverty are more likely to be placed in low track courses than their white middle-class counterparts

(Braddock, 1995). Although the outcomes of tracking are fairly clear, what actually happens in tracked and untracked classes has not been documented.

In recent years some school districts have implemented detracking projects in their high schools. During the 1994-95 academic year we participated in an evaluation of one of these detracking projects. This paper reports our findings from research in one small urban school system as it detracked its ninth and tenth grade social studies and science courses. This study examined the following questions:

- What are the salient features of teaching social studies and science in detracked (heterogeneously grouped) high school classes?
- How do these instructional features contrast with teaching in tracked (homogeneously grouped) social studies and science classes?

Method

We used a qualitative research method to conduct this study. The observations reported here occurred during the second year of the detracking project. Throughout the 1995-96 academic year the researchers independently observed tracked and untracked classes, interviewed students and teachers, and collected data of student performance on Regents examinations. We completed 75 hours of

classroom observation during which we prepared journal entries containing "thick descriptions" and "interpretative notes"from each lesson. We used a triangulation research strategy to identify and document where lesson descriptions and interpretations converged.

The High School

The study takes place in a small city in upstate New York. The surrounding area is rural and quite homogeneous with respect to culture. There are both Catholics and Protestants in the community, but no other religious diversity is evident. The area is economically lower middle to middle class, and has lost major manufacturing jobs in recent times. Only one or two students of color are observable in the schools, and there is no linguistic diversity. The atmosphere in the school is upbeat, cheerful and the interactions among students, principal and faculty are respectful and positive.

In the year preceding the start of the project the school district consulted the community of its wishes to pilot a detracking project. Students and their parents were invited to volunteer for the project. About half of the students in science and social studies agreed to participate. Eighty-four students voluntarily participated in the detracking project. In Earth Science, 49% of all the students volunteered to participate; in ninth

grade Global Studies, 46%; in Biology, 56%; and in tenth grade Global Studies, 56%.

Subjects

Four social studies and four science teachers volunteered to participate in this detracking project and each was observed two times instructing tracked and detracked courses by two of the researchers. All of the teachers were tenured. Each teacher taught the same course to a heterogeneously grouped class and a homogeneously grouped class. In addition we also observed several of their accelerated and school level tracks. The school district provided the project teachers extensive training in cooperative learning in Kagan's (1992) teaching methods.

Outcomes from the First Year of the Detracking Project

The project began during the 93-94 academic year, and test results from that first year of the detracking project were very promising in all subjects. Newman and Martin (1994) reported data from the first year of the project as follows: In the ninth grade social studies (Global Studies I) 92% of the heterogeneously grouped students passed the statewide examination, with 12/15 students who were previously in low-track school courses passed the statewide examination as well. The data for the tenth grade social studies revealed similarly high passing rates with

85% of the students in the heterogeneously grouped courses passing the statewide examination, and 9/14 school level students passing the statewide examination. Student success in the heterogeneously grouped science courses were also high. In the ninth grade Earth Science course, 95% of the students passed the examination, with 12/14 originally low track students passing it. In tenth grade science, Biology, 80% of the students in the heterogeneous course passed the statewide examination and 7/13 of the school level students passed the exam. The classroom teachers indicated they taught the same curriculum to both heterogeneous and homogenous classes. The teachers explained that they believed that the project was particularly successful with the lower tracked students. Furthermore, 70% of the students indicated that they enjoyed cooperative learning activities and more than 75% of them said they would urge other students to enroll in heterogeneously grouped classes because of the group work and opportunity to meet students that they have not known before.

Data Collection and Analysis

We assumed roles of non-participant and participant observers throughout the research project. One of the researchers maintained a non-participant role throughout the study. A second researcher participated more actively in the project by conducting two after-school "focus"

groups with the project's teachers. The participant observer also presented several lessons in which she shared photography of her recent trip to Africa with the Global Studies classes. This use of both non-participant and participant observer research roles allowed us to obtain insights into classroom teaching that could not have been obtained otherwise.

The primary goal of our data collection was to obtain descriptive validity. To help ensure it, we tested our classroom observations and insights with one another at the midpoint in the study, January 1995,. We questioned one another for specific supporting evidence for any observations and inferences the other made. Whenever an observation could not be corroborated with multiple sources of information, the researcher dropped the observation and interpretations until more data could be found to support it. In some cases we looked for confirming evidence of what we had previously described and inferred when we observed again.

We were well aware of our ideological preference for the detracked classes and recognized the need to control any influence our biases might have on our research. Consequently, we triangulated our data to help negate the influence our biases might have . That is, we cross-referenced

our data by using the following sources of information: 1) Descriptive journal entries of each of our classroom observations; 2) Detailed records of conversations and interviews with students and teachers; 3) Specimen records, such as written lesson plans from teachers, classroom assignments, handouts and unit study guides; 4) Focused discussions with one another where we tested our descriptions and insights

Results

Initially we discovered that teaching in tracked and detracked classes was far more alike than different. The detracking project provided an impetus for pedagogical change in high school teaching, prompting classroom teachers to experiment with their instructional strategies in all their classes. Consequently, we observed cooperative learning and other student-centered learning activities in all tracks. As the school year progressed, however, we also discovered some differences in classroom pedagogy. Differences emerged in classroom interaction that allowed detracked students to use oral language more freely and frequently than the tracked students, whom as a group were quieter and less verbal than the heterogeneous groups. We also learned that teachers' models about effective teaching methods and their expectations strongly influenced the kinds of instruction we observed. Many of the teachers' pedagogical

strategies seemed anchored in conventional lecture and use of study guides. Although it seems oxymoric to occur in laboratory settings, science teachers often required students to complete study guides during lab periods, instead of hands-on learning, and this pattern crossed tracks.

Similarities in Tracked and Detracked Courses

Students participated in cooperative and student-centered learning activities in both tracked and detracked science and social studies classes. We observed the science and social studies teachers use cooperative learning to varying degrees in tracked and detracked classes. The cooperative and student-centered learning activities took the following forms:

- In a detracked biology class groups of students drew and labeled the interior and exterior of blood vessels.
- In another detracked biology class groups of students shared turns at studying and answering study guide questions about the respiratory system.
- In a detracked earth science class small groups of students went outside to calculate circumference of small globes and measure shadow angles from the sun.
- In a detracked earth science class small groups of students collaborated on answering study guide questions with one another.
- In a ninth grade tracked class students formed pairs to

write "cheat sheets" or personal study guides for a Friday test in social studies; although they could not use the actual "cheat sheet" during the test, the teacher told them that this was a good study strategy. Later in the day the teacher used the same lesson with her detracked class.

- Another social studies teacher used partner work in his ninth grade Regents class to review for a Friday test. Later in the afternoon the teacher modified his lesson by having groups of students prepare arguments for a debate they would conduct about the value and disadvantages of school uniforms.

- A social studies teacher used cooperative learning in a variety of ways by having her students form groups of three to brainstorm the qualities of good essay writing and share their writing with one another; later in the same period these triads brain-stormed a group position about the advantages and disadvantages of living in Sparta or Athens.

- A social studies teacher used partner work in both her tracked and detracked classes to complete a same text frame illustrating key political positions of the U.S. and the USSR at the beginning of the Cold War.

Classroom Interaction in the Tracked and Detracked Classes

One salient feature that distinguished teaching in the two tracks was the high level of classroom interaction in the detracked classes. Student language in the detracked classes was richer and more varied than in the tracked classes. Although students in both tracks interacted

cooperatively and respectfully with one another, the detracked students displayed more eagerness and excitement for learning activities. To illustrate, we share some following evidence:

- During observation of a tracked science class students seemed very quiet and even passive when compared to the tracked students. When the researcher asked the teacher about it, she confirmed the observer's feelings but added that their lack of verbal participation did not mean they weren't interested because she believed they were attentive and on-task.

- After observing another tracked science class the observer questioned the teacher about her students' lack of involvement in the group activity. She apologetically admitted they had not actively participated in her lesson, and she believed her detracked group was much more cooperative that way.

- An interview with another science teacher suggested a similar interactional difference between the two tracks; this teacher explained her tracked class contained boys who were more immature than her detracked students. My detracked class is "... a great group of students."

Teachers' models of effective teaching contributed to the interactional differences we observed between the two tracks. Two teachers explained that cooperative learning worked best with the detracked classes. One teacher argued that his tracked social studies class was "already verbal and did not need the group work". That teacher's explanation was particularly interesting because he changed his lessons that day to illustrate his point: He revised a morning lesson that

was primarily lecture/recitation to a lesson with his detracked class that consisted mostly of group work and classroom debate.

Teachers' beliefs about the purposes and effectiveness of different pedagogy strategies also appeared in both science and social studies courses. One science teacher told a researcher that she believed her detracked class needed more time with concept application. Consequently she reduced her lectures by omitting personal anecdotes and examples, which she enjoyed sharing, so she could provide more help for applied lab activities. A social studies teacher confided that she lectured more with her "extended" class because they learned well that way and did not need group work to learn the curriculum.

Throughout our classroom observations we also found conflicting points of view about effective classroom teaching. One teacher said she changed her plans from what she initially scheduled so the research would see more interaction during the lesson. However what was actually observed was a teacher-centered lesson with very limited student talk. On another occasion a teacher conducted an exciting group activity, but suddenly ended it without any closure so she could present a lecture she believed contained information that students would need for the Regents examination.

We sensed that teachers held widely differing views about the characteristics of effective lessons. We learned that some teachers believed lecture to be the most efficient method of instruction, with cooperative learning serving only as extension or enrichment. Several teachers indicated that cooperative learning served their lower track students well but that upper track students did not need it. One science teacher offered a number of insights about pedagogy and tracking. "Most schools got it wrong...the most experienced and gifted teachers should instruct the lower tracks because anyone could teach the upper tracks," she explained. She believed that teachers needed to attend more closely to the methods they use with lower achieving students. She believed the project had a great impact on her classroom pedagogy, which she thought had always ben student-centered. Because of the detracking project, however, she now taught differently than she did before. The detracking project, she enthusiastically explained, fostered change in teaching methods for all the participating teachers. When we asked her how she decided when to use cooperative learning or other student-centered learning activities, she explained that whenever she wanted students to manipulate concepts she used cooperative learning. But when she wanted to introduce new concepts, she presented through lecture. She repeatedly

emphasized that she planned and taught the same way regardless of whether the classes were heterogeneously or homogeneously grouped. Some teachers, she pointed out, were anxious about using cooperative learning with the school level tracks students because they believed the method would result in management problems.

Teachers' expectations about student learning influenced classroom pedagogy, and in at least one case, the expectations were negative. One dispirited teacher claimed that 40% of her tracked and 50% of her detracked students were failing her courses, and there was little she could do about it. She bluntly stated she no longer believed in the detracking project because "students at the bottom felt badly and lost their will to succeed." Cooperative learning, as well as other student-centered learning activities, she argued, contributed to classroom behavior problems. Furthermore, she did not believe the upper track students needed cooperative learning because they learned well from lecture. Despite all these disclaimers, the teacher, albeit reluctantly, used cooperative learning in her tracked and detracked classes for our observations. She discovered that student engagement during these lessons was very good, and sheepishly admitted, " Perhaps I should have used more of it during the year." Certainly her expectations limited her

classroom pedagogy, but we suspect her case was an anomaly. The other project teachers's expectations where high and enthusiactic for all students and especially for the detracked classes.

Several teachers believed Regents' examinations interfered with their classroom pedagogy. They felt pressured to teach to the Regents's examinations and believed could not easily modify their teaching methods because they would not be able to present information they knew would be on the exams. One science teacher explained that although she now taught much differently than years ago, she was "still held to the same standard and they (Regents) have not changed .

Taken collectively, our analyses of lessons and interviews with teachers indicate clear and consistent evidence of differences in classroom interaction between tracked and detracked classes. Overall, the detracked classes participated in more cooperative and other student-centered learning activities than the tracked students, and the detracked students spent less time learning from lecture/recitation than the tracked classes. Teachers' models of teaching influenced the ways they taught their lessons, with some teachers clearly preferring lecture instead of other teaching strategies. Several teachers indicated the Regents' exams influenced their pedagogical decisions and they would feel

freer if they did not need to teach for the state tests.

Classroom Learning Materials and Activities

Classroom learning materials influenced classroom pedagogy. Science teachers frequently required students to complete study and lab guides. The study guides served to organize their curriculum. Teachers planned lecture or cooperative learning activities around these guides. The guides contained vocabulary, diagrams and questions about lab activities and key unit concepts. Teachers introduced these guides and then reviewed them with the students after units were completed. We observed teachers use unit guides to prepare students for quizzes and tests. Teachers assigned unit guides for homework. In a May observation, a teacher used a new unit guide as the framework for a double period of earth science; she defined, explained and asked questions about unit vocabulary for almost all of her two class periods. The lab and unit guides appeared in most of the tracked and detracked science classes and represented a major requirement and source of information for students. Completion of the science guides required three related writing strategies: 1) Student ability to listen to teacher presentation/lecture and write information from these oral presentations into their study guides and notebooks. 2) Students' ability to read their textbook and

record answers to unit guide questions directly onto their guide or in their classroom notebook. 3) Student ability to complete a hands-on lab activity and translate the information to the guide.

In the majority of our observations science teachers used lecture/recitation to some extent and often combined that presentation method with visual displays on the overhead projector. At one extreme, a teacher used oral presentation of information through most of two class periods for a total of 63 minutes out of 80. At the opposite extreme was the student teacher who used almost all of his science period for cooperative learning and only five minutes for his oral summary. Most of the classes, tracked and detracked, lie somewhere in the middle between lecture/recitation and cooperative learning.

We observed social studies teachers using textbooks, unit guides, teacher-made activity sheets pertaining to vocabulary and key historical concepts, newspaper columns and student essays. Teachers required students to take notes from their textbook readings, study sheets, lectures and discussions; the quality of their notes varied and some students exhibited difficulties with them. Social studies teachers presented a variety of reading and writing material, but their lessons were not dominated with any particular kind like we had observed in

science classes.

Social studies teachers used conventional lecture/recitation when presenting and reviewing information with their students, but we also observed them use debates , dramatization and team teaching. Two of the social studies teachers, in particular, began team teaching and experimenting with their teaching methods. The size of their cooperative learning groups ranged from pairs, to triads to large groups. We did not observe any social studies lesson where a teacher used lecture and recitation as the only method of instruction, although this did occur in three science class observations. Social studies teachers required students to take notes from classroom readings and teacher presentations. Students needed to complete commercially prepared and teacher-made activity sheets and unit guides pertaining to their units of study. Teachers required students to interact and learn in small and large groups. Students brain-stormed, debated, wrote definitions and explanations of concepts into their social studies notebooks. Lastly, students composed and evaluated essays about the units they studied.

<u>One Teacher's Instruction of Tracked and Detracked Classes</u>

Mr. Brown (pseudonym) had taught for over twenty years. He assisted coaching the high school football team and counselors often scheduled

athletes into his courses. He frequently interacted with his students through humor. He believed that the first year of the project was spectacular, but thought this year's mixture of detracked students, with several students in particular, created some management problems for him. We describe three lessons from his 9th grade earth science courses: one from his tracked and low achieving school level course, one from his tracked Regents' course and the last from his detracked Regents' course. These lessons are representative of how the other project teachers instructed their tracked and detracked classes, at least in the beginning of the year.

Mr. Brown began his school level tracked lesson by having students measure one another's heights. Students measured one another against a chart that was taped to the front chalkboard. After students recorded their heights and ages, he told them to copy this information into their notebooks. Mr. Brown said they would need this information in tomorrow's lesson. Then he directed them to complete independent seatwork of 35 questions from an activity sheet about graphing which he distributed. This seatwork served as the major lesson activity -- students spent 25 minutes on it and were allowed little interaction with one another. There were several students with disabilities in the course,

and a special educator helped team teach the first fifteen minutes of the lesson with Mr. Brown. Students in this class remained attentive throughout the period.

In his tracked Regents class, Mr. Brown began the lesson by directing students to complete an activity they had begun the previous day. The students worked in three large groups in which they described to one another, without showing, points in a circle they had drawn. The task required listeners to plot the points on their own circle. The object of the activity was for students to understand how to use map and globe coordinates. To be successful with this task students need to use specific vocabulary and negotiate meaning with one another. For example, one group of students could be heard saying, "It's two o'clock and the second from the middle" and "Is it in C or D section?" Mr. Brown explained to his students, "You are going to describe to them (listeners) that part which they are supposed to plot..." After about 17 minutes of this group activity the Mr. Brown asked several questions, "Ok, what was important?" "In order to do this, what was important?" Mr. Brown stood next to the overhead projector and displayed a transparency with a grid containing a map of the world. During this time, which included the 45-minute lab period that followed, Mr. Brown lectured and asked questions

of the students. He asked, "What is a reference point?" and "What's the prime meridian?". Later he displayed a topographical map of New York State and asked the students to identify the reference points for their city. For over an hour, from 8:30 to 9:38, Mr. Brown used this lecture/recitation method of instruction.

Mr. Brown taught his detracked Earth Science class differently than his tracked classes, school level and Regents. Instead of lecturing during lab period, he used the time for an outdoor hands-on learning activity. He began his lesson by asking the students to silently read a humorous handout about Columbus discovering the New World and how the world was mapped. He asked questions like, "Is the earth a perfect sphere?" "How do we know light travels in a straight line?" "Does anyone see a problem with Columbus discovering the New World 500 years ago?" "But what about 'Mr. Ratso' who assumed the earth was round and proved it over 2,000 years ago?" When it was time for the lab period he distributed science materials for the students to use outdoors. These materials included small globes, two sticks and directions for using sunlight to complete a series of tasks and questions about map coordinates. The students spend the remainder of class time completing this activity.

Mr. Brown interacted more expressively and enthusiastically with

students in the detracked course. Students spent more time with the hands-on learning and teamwork activities than the tracked classes. From the observer's perspective, the detracked course presented better teaching and learning because of the level of student engagement and social interaction which allowed students to use language for learning. We later discovered that other project teachers displayed the same pedagogical patterns as Mr. Brown did in his teaching. That is, teachers tended to include cooperative learning more frequently with the detracked classes. Although they explained that they taught tracked and detracked classes similarly, we found that not to be entirely true because subtle differences appeared. Perhaps teachers planned similar lessons for tracked and detracked classes, but the implementation of the lessons was received differently by students. Specifically, we detected a pattern in which the detracked students interacted more spontaneously and eagerly during classroom lessons than the tracked students.

Discussion

Academic tracking of students continues to be a hot-button issue in American communities. Tracking magnifies and accelerates the academic differences among students and most schools still practice it. Although not all would agree, we believe tracking is undemocratic and poisonous to

a free society that depends upon well educated citizens actively participating in its social, cultural, political and economic affairs.

This study is unique because we had the opportunity to observe the same faculty teaching the same courses to students in tracked and detracked classes. A main assumption of tracking has always been that it makes teaching more effective and efficient by narrowing the range of student achievement within a class. A second assumption is that tracking fosters higher levels of student achievement because teachers can precisely offer discrete information to fit students with common learning needs. The results of our study provide insights as to whether tracking is as efficacious as its proponents argue.

We discovered that the project teachers used cooperative learning and other student-centered activities in all their courses, although they used these activities slightly more often and for longer periods of time with the detracked classes. Teachers motivation for the project and their expectations for students certainly influenced the kinds of teaching we observed. Almost all of the participating teachers were enthusiastic about the detracking project, and we are certain they did everything to make the project work as well as it did.

Classroom materials had impact on the kinds of teaching we

observed in both tracks. Unit guides, in particular, often coincided with teacher lecture. Science teachers supplement these guides with lecture by providing definitions and specific information for students to copy. This conventional kind of teaching occurred in all tracks and especially in science classes.

The most significant finding of our study is that we could find no evidence supporting greater effectiveness or efficiency of teaching the tracked classes. Ironically, teachers often explained that they planned identical lessons for both groupings, but there seemed to be few differences in students' responses to the lessons as proponents of tracking might argue. In fact when differences appeared, the preference lay with the detracked classes -- the detracked classes offered more lively and exciting contexts for learning than the tracked. How could this be so? Detracked students used oral language more frequently to discuss, analyze and examine their assignments. On the other hand, tracked classes appeared more reserved and less eager to discuss lessons with one another. Perhaps these tracked students had simply become more skilled at independent study and preferred acquiring information independently through reading. Another reasonable explanation is that the tracked students had become been accustomed to individualized strategies for

learning because, after all, they have been successful with it. (We would like to argue that the tracked students were also more competitive and less cooperative, but we can not prove that at this point).

We found no evidence to support some teachers fears about students becoming off task or disruptive during cooperative learning. Throughout all our observations students in the study displayed respect and cooperativeness for their teachers and one another. The suspicion that cooperative learning would foster off-task behaviors was never supported in our observations and appears largely a myth.

Teachers' models of teaching strongly affected their classroom pedagogy. Some teachers believed that lecture-recitation was the most efficient form of instruction. Others believed the opposite, arguing that hands-on learning was more engaging and exciting for them and their students. The statewide Regents examinations certainly had impact on teachers beliefs about this issue, because most of them felt they would be measured by their students' performance on these examinations.

Finally, what were the salient features of teaching in the tracked and detracked classes? Teaching and learning seemed far more alike than different. When differences emerged, the differences favored the detracked classes especially in terms of verbal interaction among

students and teachers. Materials and classroom learning tasks were largely the same, often restricted by study guides, unit tests and teachers' apprehensions about student performance on the statewide examinations.

We believe academic tracking is supported primarily through pedagogical hyperbole. Although there are moments when classroom teachers should group students by performance or interest, such groupings are better when temporary and flexible. Arguments that ability grouping should be permanent in all subjects throughout a school year simplifies and distorts the real needs of teachers and students. This study, we believe, provides convincing evidence that effective teaching and rich learning opportunities can be constructed when students are heterogeneously grouped. We further believe that there are far more gains for a community when all its students are held accountable to high academic standards.

Our findings have implications for teacher educators. New teachers must learn how to adapt their instruction to a wider range of student achievement and interests within a single classroom. Not only should teachers know how to effectively handle a wide variety of ethnic and cultural diversity in their classrooms, but they must also be effective in

settings where there is more heterogeneity in student achievement than ever before.

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